Modelling stock prices by hidden semi markov models

by

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Abstract

Most time series modelling assumes fixed interval data points, so that modelling stock prices in the form of tick data is problematic.

Standard approaches allowing for varying duration between transactions include Engle's autoregressive conditional duration model; and the stochastic conditional duration model, due to Bauwen. Neither of these approaches is really suitable for tick data, with many transactions taking place more or less simultaneously.

We comment on developments in these two schools of duration modelling; and model heavily traded stock prices given as tick data using hidden semi markov models.